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Original Articles.

OUTLINES OF THE HISTORY OF MALIGNANT OR ASIATIC CHOLERA IN NEW ORLEANS, LOUISIANA.

By JOSEPH JONES, M.D., LL.D.,

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MALIGNANT ASIATIC CHOLERA.

IT would be foreign to our purpose to enter fully into the history of this foreign pestilence, which has, at various times, reached the shores of Louisiana from the cities of Europe, across the waters of the Atlantic ocean and the Gulf of Mexico. Asiatic cholera has played no insignificant part in the grand carnival of disease and death.

In 1832 Asiatic cholera, in conjunction with yellow fever, swelled the mortality of New Orleans to 8,099, in a population

of 55,084, and marked this year as the most terrible in the annals of this city, the death rate reaching the enormous proportions of 147.10 per 1,000 inhabitants. In 1832 the inhabitants of New Orleans were more than decimated, for more than one-seventh of their number was destroyed chiefly by Asiatic cholera and yellow fever, acting in addition to the usual endemic and epidemic diseases.

The Charity Hospital affords the following statistics of Asiatic cholera:

YEARS.	CASES.	DEATHS.
1848.....	662.....	396
1849.....	1,813.....	1,122
1850.....	724.....	530
1851.....	382.....	292
1852.....	485.....	358
1853.....	194.....	115
1854.....	478.....	352
1855.....	351.....	225
1856.....	32.....	11
1857.....	1.....	1

Total (1842-1860, eighteen years) cases 5,122; deaths, 3,402; per cent. of deaths, 66.4. During the sixteen years following the American civil war, New Orleans has

been comparatively exempt from Asiatic cholera, as shown by the statistics of the Charity Hospital; thus in

YEARS.	CASES.	DEATHS.
1866.....	300.....	237
1867.....	94.....	70
1868.....	15.....	9
1873.....	34.....	27

Total cases, 443; deaths, 343, during sixteen years (1864-1880); per cent. of deaths, 77.4.

There were received into the Charity Hospital during thirty-eight years (1842-1880), 5,565 cases of Asiatic cholera, of which 3,745 terminated fatally, giving a rate of mortality of 67.3 per cent. The first authentic records which we have of the appearance of Asiatic cholera in New Orleans, relate to the year 1832, when it occasioned 4,340 deaths out of a total of 8,090 deaths from all causes; yellow fever claimed only 400 deaths in this most pestilential year in the annals of this city. The disease lingered through 1833, when it claimed 1,000 victims out of a total of 4,976 deaths. In 1832 the population of New Orleans was 55,084, and of this number more than one-seventh perished, giving a mortality from all causes of 147.10 per 1,000 inhabitants; and from Asiatic cholera, 78.78; and from yellow fever, 7.20. Cholera appeared again in 1848, and destroyed 1,646 inhabitants, and continued its ravages for several years, the deaths being 1849, 3,176; 1850, 1,448; 1851, 430; 1852, 1,329; 1853, 585; 1855, 883; 1856, 43; 1857, 24; 1858, 26; 1859, 27; 1860, 30; 1861, 12; 1863, 4; 1864, 5; 1865, 9; total deaths from Asiatic cholera during a period of twenty-one years (1844-1865), 9,678. Cholera appeared again in 1866, and continued its effects for three years. The deaths were as follows: 1866, 1,294; 1867, 581; 1868, 129; 1869, 4; 1870, 3; 1871, 6; 1873, 142; 1874, 6; 1875, 4; total deaths during fifteen years (1866-1880), 2,169.

It is evident from the preceding statistics, that during a period of thirty-six years (1844-1880), Asiatic cholera destroyed 11,847 of the citizens of New Orleans; and if we add to this number the deaths occasioned by this disease in 1832 and 1833, we have a grand total of 17,187 deaths.

Those charged with the conduct of the sanitary affairs of the city and State should view these 17,187 dead citizens as victims to a foreign or exotic pestilence, imported

from the shores of Europe in the cargoes and passengers of ships.

The State of Louisiana can protect herself and the entire valley only by maintaining, at all times, and under all circumstances, a vigilant quarantine at the mouth of the Mississippi river; and all parties who, under the guise of promoting commerce, endeavor to destroy an efficient quarantine, should be regarded as public enemies. It is probable that the mortality occasioned by Asiatic cholera was even far in excess of these figures, for we find upon careful examination of the mortuary records of New Orleans, that during a period of thirty-six years (1844-1880), the deaths from bowel affections were as follows: Cholera morbus, 889; cholera infantum, 2,408; teething, 3,430; gastritis, 743; enteritis, 6,915; dysentery, 7,097; diarrhoea, 8,289; total from these diseases, 29,771. During this same period of thirty-six years yellow fever occasioned 28,739 deaths.

It is evident, therefore, that the so-called ordinary bowel effections, diarrhoea, dysentery, cholera morbus, enteritis, gastritis and teething, actually caused a larger number of deaths in New Orleans than yellow fever, and if we add the 11,847 deaths caused by Asiatic cholera, we have a grand total of 41,618 deaths from those diseases in which derangements of the gastro-intestinal mucous membrane form the most prominent symptom.

The continuous and fearful mortality from this class of diseases, must be diminished by improved domestic and general sanitation. The great essentials of sanitary reform for the diminution of the number and fatality of the cases of bowel affections in New Orleans must be based upon:

1. Thorough drainage of the parish of Orleans, and especially that portion occupied by the city of New Orleans.
2. The prompt removal of all fecal matters out of the limits of the city.
3. The daily removal of garbage.
4. Systematic and thorough cleaning of private premises, public buildings, factories, markets, streets and gutters; the filling up with sand and gravel of all low lots.
5. The supply of pure filtered rain water in abundance to all the inhabitants of New Orleans, at the lowest cost.
6. Daily inspection of markets, milk, meats, fish, fruits, and all farm supplies.

CHOLERA.

BY LOUIS LEWIS, M.D.

THE germs of cholera are eliminated through the bowels, the skin, and the lungs, and through one or more of these channels they may also enter the body. The profuse evacuations indicate that the intestines are one channel of exit, and the fact that the disease may be induced by consuming liquid or solid food containing cholera evacuations, points to the same as a medium of entrance. Again, the copious sweating marks the skin as another medium of exit, while the propagation of cholera by handling infected clothing and bedding also shows it to be a channel of entrance. Moreover, the germs may be wafted into the air, and enter the system through the lungs, or pass into the stomach and bowels through the agency of the saliva. Impure air, defective drainage, and bad water, are notorious media through which the disease is communicable.

In true Asiatic cholera (or "morbus oryzens"), the countenance assumes a dusky hue, with sunken eyes, surrounded by dark areoles, and the features are pinched and "drawn." These appearances are so unmistakable that it is a frequent occurrence in India for the army surgeon to call a man out of the ranks at parade and send him to hospital quarters before he even knows that he is sick. Giddiness, sinking at the epigastrium, prostration and vomiting usher in the more urgent symptoms, and intense thirst, colicky pains, with painless evacuations of "rice-water" stools, cramps of the abdomen and extremities, and cold perspirations lead to collapse, or the algide stage. The temperature has now fallen (to rise again after death); the mouth and tongue become cold; the body emits a mouldy odor; the urine at first contains sugar, but is soon suppressed with the other secretions; the voice becomes inaudible; the pulse can scarcely be felt; the whole surface is congested and discolored, and stupor and coma end the scene. In favorable cases the secretions are re-established, and albumen appears in the urine during convalescence.

The above are the symptoms, with more or less variations, of a typical case of true cholera. Sometimes very virulent epidemics occur in which the usual symptoms are wanting; the body becomes

suddenly livid and convulsed, and the patient dies in a few minutes. Such an outbreak happened at Golwood, India, in 1876, and more than half the population were dead in three days. In these virulent cases the patient dies before diarrhoea has commenced, but there is usually vomiting of a greenish paint-like fluid. Post mortem, the right heart is found to be gorged with blood, the left side almost empty.

Many drugs have been vainly tried in the treatment of cholera; calomel, arsenic, phosphorus, bromides, strychnine, iron, tannin, camphor, and others. Free bleeding, purging, and emesis were once in vogue; the latter, especially emetics of chloride of sodium, were much employed some sixty years ago; and to-day the same salt is recommended, in the form of frequent injections of tepid sea-water. In the preliminary diarrhoea that usually warns us of impending cholera, diluted sulphuric acid is very useful, half a drachm in half a tumblerful of gaseous lemonade, taken three or four times a day; or five to ten minims of glycerate of carbolic acid, in water, every few hours. Small repeated doses of Dover's powder often do good service, or equal parts of Dover's powder and hydrargyrum cum creta. When the disease has quite alarmingly developed, subcutaneous injections of morphine and atropine combined seem to have given the best promise so far; but nothing seems of much avail, and our most useful energies are called in the direction of prevention. Here so much may now be done that was without our ken in the older epidemics, that a serious outbreak would have to be largely ascribed to municipal neglect. As to personal precautions, we should advise timid persons to have their water and milk well boiled for half an hour; to beware of fruit, ice-cream, ice, and raw or under-cooked vegetables; and to maintain a healthy and free action of the skin, bowels, and liver. With such measures, and avoidance of needless panic, there would be little cause to worry about the cholera.

NEW clothes possess no immunity against disease, especially if the garments are made up in the Russian Jew sweating houses. Should cholera come, it will be safe, and doubtless fashionable, to wear old clothes for a long time after the epidemic has passed away.

THE ACID PREVENTION OF CHOLERA.

By S. V. CLEVINGER, M.D.

THE Secretary of the Illinois State Board of Health, in a recent publication, called attention to the fact that sulphuric and sulphurous acids had been successfully used in epidemics prior to Koch's discovery of the comma bacillus, and to his claim that it could be cultivated in alkaline media, and that acids killed it.

Niemeyer's description of the pathological anatomy of the intestinal tract in cholera, appears to bear favorably upon the acid theory of prevention.

In the 1879 translation of the eighth edition, Vol. II., page 648, *et sequitur*, Niemeyer says:

"The relaxed, baggy, small intestine has a peculiar, rosy appearance even before it is opened, *while the large intestine preserves its natural color.* . . . The mucous membrane of the small intestine is finely injected, *especially near the valve, and growing less as we pass upwards.* . . . As a rule, also, *the solitary and Peyer's glands are swollen and distended.* . . . *The large intestine does not show any constant changes, and there is but little alteration in the jejunum.*"

In Halliburton's recent "Text Book of Chemical Physiology and Pathology," London, 1891, page 652, is the statement that "The intestinal contents become alkaline about ten or twelve inches from the pylorus, and then pancreatic digestion begins. . . . The reaction of the intestinal contents remains alkaline *until the large intestine is reached*; fermentative processes have, by this time, produced sufficient lactic, butyric, and similar acids to more than neutralize the alkalinity of the juices. This acidity stops the digestive action of the pancreatic juice."

I have italicized parts of the quotations which indicate that such portions of the alimentary canal as are farthest from the normally acid stomach, and possess the maximum of alkalinity, appear to be the places in which the disease exerts its greatest changes, the acid colon escaping, and it is in the lower small intestine that the main putrefactive processes occur and organisms abound.

In this connection, the following suggestions may interest physicians to consider:

1. There will be found variability of toleration of acids between individuals.

2. Some interference with normal intestinal digestion must be induced by over acidulation.

3. May not other acids than the sulphuric answer as well?

4. Does gout and rheumatism confer immunity?

5. Would it not be well for drinkers to substitute sour wines for other kinds of liquors?

6. Too much reliance must not be placed upon any single means of prevention.

70 STATE STREET, CHICAGO.

PROFESSOR CUNNINGHAM, Physiologist of the Army Medical School at Netley, has been granted two years more to complete his observations on cholera.

DR. SHAKESPEARE'S conclusions in regard to Ferran's preventive inoculation for cholera were quite favorable to the Spanish *savant*. He inoculated 30,491 persons out of a total population of 104,561, in twenty-two towns where cholera prevailed. Those not inoculated died of cholera at the rate of 33.58 per 1,000. Of those who were inoculated the death rate from cholera was 3.41. Commenting on these reports Dr. Shakespeare says: "There is no slight ground for the belief that subcutaneous inoculations into man of pure cultures of the comma bacillus of Koch, whilst they do not usually excite disturbances which in any way resemble Asiatic cholera, apparently exercise a certain protective influence through the establishment of a considerable degree of immunity from attack and death by cholera. The secondary claim of Ferran that the anti-choleraic inoculations constitute a means of protection of communities from serious invasions of cholera, as well as a means of rapidly terminating a local epidemic already raging, without recourse to the universally hated measures restricting personal liberty, or to the imposition of damaging restraints upon trade and commercial intercourse, has in its support the same amount and class of testimony." The cholera vaccine is a pure culture of the comma bacillus in bouillon. Of this, fifteen minims are injected into each arm, the whole being carried out under the strictest antiseptic precautions.

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A DANGEROUS SUGGESTION IN THE TREATMENT OF CHOLERA.

REFERENCE has been made to Dr. George Johnson and his treatment by castor oil. As this suggestion has again been brought forward, we will give the views of those who have put it to practical proof. Fergus, of Glasgow, calls attention to the preliminary diarrhoea, perhaps consisting only in a painless, agreeable relaxation. This is the only stage at which opium is to be given, and then in a full dose, with a stimulant, when it is of the highest value. It is only to be given if the stools are still bilious, pulse fair, and skin warm. Macpherson and Macnamara, from an extensive experience in India, declare that at the proper stage, no remedy is so effectual as opium, and it may be safely trusted to cure the premonitory diarrhoea of cholera. Twining and Parkes confirm this view. Gubler says it calms the brain, relieves epigastric constriction, checks mucous flux, favors perspiration, and assists stimulants, astringents, carminatives, or absorbents.

The following pill is recommended by Aitken:

R.—Pulv. opii..... gr. xii.
Camphoræ..... gr. xxx.
Pulv. capsici..... gr. ix.
Alcohol..... q. s.
Conserv. rosæ..... q. s.
M. et in pil. No. xii div.

The dose of opium is to be repeated if another loose stool occurs.

Macnamara says: "No more erroneous practice can possibly exist than that of allowing [choleraic] diarrhoea to go on, upon the supposition that the attack is a bilious one, and that the purging is salutary or harmless. More deaths from cholera have been occasioned from this than from any other mistaken notion on this subject."

Dr. George Johnson believes choleraic diarrhoea to be due to noxious secretions poured from the blood into the bowels, and recommends elimination by castor oil. Fergus says: "If this advice is followed during an epidemic of cholera, the consequences may be very serious. It is well-known that during an epidemic there is a general tendency to relaxation of the bowels, and that they become very susceptible to the smallest dose of even the mildest medicine. Any one who has had much to do with cholera must have frequently met with cases which appeared to be the direct result or consequence of a slight dose of medicine. The risk is that the castor oil or rhubarb would drive most of the cases into the second stage of cholera, when opiates and astringents would increase the danger immensely."

Macnamara says: "I caught some of Johnson's enthusiasm, and came out to India full of confidence and hope in castor oil. I went boldly to work with castor oil, but it absolutely and completely failed; the mortality from the disease was fearful. I have since, on several occasions, tried castor oil in cholera, but have finally abandoned it, having never seen any benefit arise from its use." He goes on to say that in the second stage, with profuse stools, these should, if possible, be rendered acid, for which he uses the following:

R.—Acid. sulphurici dilut.,
 Acid. acetici dilut. āā m. xv.
 Acid. carbolic. gtt. ss.
 Aquæ. f 3jss.

M. S.—Give every half hour for four hours, then every hour, adding opium to first and second dose, if advisable.

Thus it will be seen that practical experience has led this sagacious observer to antedate later bacteriological studies, that have proved acids to be destructive to the cholera bacillus, while the theoretical basis of the castor oil or eliminant treatment, flimsy at the best, has completely broken down under the clinical test. Notwithstanding this, the last number of the *Hospital Gazette* contains an item reiterating Dr. George Johnson's suggestion, and recommending its adoption. Such advice, at the outset of a cholera epidemic, is calculated to do immense harm.

MEANS OF PREVENTING THE INVASION OF CHOLERA.

THINGS move so rapidly nowadays, that the suggestions made at the time of writing, one week before the appearance of this number of THE TIMES AND REGISTER, may be rendered obsolete by the time our readers receive their copies. The action of the President in establishing a quarantine of twenty days on immigrants, has met with general approbation, excepting with the steamship companies. Indeed, divers individuals who are not in politics, and hence have not the fate of the Know-Nothing to dread, have expressed the fervent opinion that the quarantine could be extended to fifty years without serious detriment to the country. In the meantime, immigrants are compelled to take a circuitous route through Canada or Mexico, and smuggle themselves across the border, to reach this land of promise. This is productive of good; as it increases the length of time they are absent from the cholera regions before they enter our country, and also lessens the possibilities of carrying with them baggage, possibly infected. Any one witnessing the debarkation of immigrants of the lower grades, will hardly fail to be impressed with the

absurdity of their carrying thousands of miles the worthless trumpery constituting their effects. Very little loss and much good would result, were the immigrant to pass to our shores through a region of soap and hot water, leaving his exuviae behind him to be cast into the flames; while he emerges into the land of the free a new man; American, from the skin outward, and all his old belongings cast off with his allegiance. Would not this create in his mind a sense of regeneration, and arouse an opposition to Cahenslyism?

RAGS!

THE Secretary of the Treasury has forbidden the importation of rags from any foreign port, unless accompanied by a consular certificate of disinfection. Also, rags gathered in or shipped from any cholera-stricken port are absolutely denied entry.

This will compel foreign dealers in rags gathered in Hamburg and other cholera centers to ascertain what Consul makes the lowest charges for his certificate, and to ship their rags from healthy ports. That none of our Consuls would prove venal in so vital a matter we admit at once. But the success of the rule presupposes that every single Consul is capable of efficiently directing the disinfection of rags, and that every last man of them will prove fully alive to its importance, and will personally see that every solitary rag is thoroughly and completely disinfected. The probability of these conditions being realized may be doubted. At the New York Health Office, a curious incident occurred. An infected blanket had been hanging out in the snow and rain, and when brought to the office to be disinfected, the blanket was folded up and placed in the hot air receptacle. After some hours the blanket was removed, unfolded, and in the center was a large piece of ice! Evidently, the fumigation would not have destroyed septic germs. Under these circumstances, it is not necessary to show that former epidemics have been caused by rags. It is perfectly well-known that the greatest

danger is found in clothes contaminated by choleraic vomit or stools, and that the germs will retain their vitality for an indefinite period in such a habitat.

Rags! Gathered from the hovels of the poor, from the dump-heaps, garbage and ash receptacles. Old bandages and rags used for the sick, who are too poor even to lose the trifle paid for them by the ragman. Rags from cholera, typhus, small-pox or diphtheria! What disinfection could remove from such materials all possibilities of danger? No article of import is so dangerous in ordinary times, and when cholera prevails, the importation of rags should not be allowed under any circumstances. Disinfection may disinfect, but apply the personal equation to our health officers, appointed for political reasons, over our widely extended boundary line, and reflect that one solitary instance of carelessness, allowing the pest to enter, is sure to be followed by its extension through the country. We believe that in asking the total prohibition of the importation of rags, we are voicing the universal sentiment of the public.

Annotations.

IN TIME OF PEACE, PREPARE FOR WAR.

SHOULD cholera appear in Philadelphia, I shall assuredly employ the drug that has done me such good service in cholera infantum—the sulpho carbolate of zinc. I shall employ it as a prophylactic, giving an Upjohn $2\frac{1}{2}$ grain pill three times a day, to be sucked like a lozenge until the taste becomes quite strong, and then swallowed. All drinks to be acidulated with citric, phosphoric or hydrochloric acid.

For the preliminary diarrhoea, I propose to give the sulpho carbolate, two and one-half grains every hour or two, with a full dose of chlorodyne, or a similar mixture of opium, camphor and chloroform. For sudden choleraic attacks, the powerful Indian stimulant formula mentioned in the digest of treatment.

In the later stages, baths, subcutaneous or intravenous injections of saline solutions, and lactic acid internally.

For collapse, hot baths, hypodermics of alcohol, ether and strychnine.

Diet, the raw white of egg, in ice-water, pepsinized milk (junket), Mosquera's beef meal, Bovinine, and koumiss, by the mouth or by the rectum.

Salol, beta-naphthol, copper arsenite, naphthalin, betol, thymol, eucalyptol, creasote and resorcin, form a list of remedies to be held in reserve, and tried in case those preferred do not answer expectations. Peroxide of hydrogen may prove our chief reliance before the year closes. It certainly should not be neglected, as a prophylactic or a remedy.—*W. F. Waugh.*

AS a food likely to be retained on the stomach, clam juice deserves a trial. It has remarkable virtues in cancer and other diseases of the stomach, attended with irritability. It is possible that in cholera it may prove of like value. Burnham's clam juice in bottles may be procured at any drug store; and a Philadelphia firm puts up a superior article in cans. It may be used in hot water, hot milk, or frozen.

The Medical Digest.

TREATMENT OF ASIATIC CHOLERA.—

Lebert says that while rest, caution in diet, small meals of light animal food, red wine, and flannel abdominal bandages are all useful, opium is the one real remedy in cholera diarrhoea, especially in the worse forms. All sorts of combinations may be made so that they contain opium.

R.—Argenti nitrat. gr. ix.
Solve in aquæ dest. q. s. et adde:
Ext. opii gr. ivss.
Pulv. altheæ gr. xxij.
Ext. gentianæ, q. s.

M. Ft. mas, et in pil. xxx dividenda.

S.—One pill three times a day in light cases, two pills in severe cases.

If the stools occur in rapid succession, he gives two or three pills every hour until the diarrhoea yields. After it ceases, a pill is to be taken every evening for some days. In more obstinate cases he gives one-third grain of opium with three grains of tannin or eight of bismuth; and assists these remedies with enemas of one and a half to three grains of nitrate of silver and ten to fifteen drops of laudanum in three ounces of water. If this be quickly passed a second is given shortly; in urgent cases two enemas are

given in a day. In case great danger threatens, he gives fifteen to twenty drops of laudanum at once. In cases of great nervous distress and anxiety he uses equal parts of the tinctures of opium and of camphor, in doses of six to ten drops. For the pains and colic he gives warm chamomile tea (*matricaria*), and puts the patient to bed, with hot poultices or cold compresses to the abdomen. If the diarrhoea returns, the patient should change his location. In such cases, if opium fails, mild laxatives have succeeded, but such cases are exceptional. When nausea, vomiting, or bitter taste exists from the first, they are met with effervescing powders, ice, aerated drinks, and if these fail, an emetic of fifteen to twenty grains of ipecac.

In well-marked cholera the foregoing remedies are useless. Keep the patient composed, give small pellets of ice every three minutes, and mouthfuls of very cold soda water, or small soda powders in a little ice-water. Soda lemonade is very useful.

Hypodermics of morphine, gr. $\frac{1}{4}$ to $\frac{1}{2}$, allay the pains and cramps of the second half of the attack. Internal medicines are useless, and enemas will not be retained. Frictions, with pure chloroform or counter-irritants, are useful. When the stools become less frequent, enemas of laudanum, twenty drops, and eight or ten drops of the strong solution of chloride of iron (*Br. Ph.*), or four grains of nitrate of silver may be given. If diarrhoea be still present at the end of the attack, five to eight drops of laudanum may be repeatedly given.

Hygienic management must be secured throughout the attack. Precordial anxiety is best relieved by compresses over the abdomen; later, by mustard, etc.

Venous injections are useless and dangerous. Stimulants at this stage have been abused. We cannot force reaction if the strength is unequal to it. If the temperature fall, frictions of the extremities should be instituted, with flannels and stimulating liniments; and hydropathic wraps, warm jugs to the hands and feet, warm aromatic drinks, and ammonia, may be used.

R.—Ol anis. f3j.

Alcohol f3ij.

Solve et adde,

Aq. ammonia f3v.

M.—S. Ten to fifteen drops to be added to every cup of tea.

In very grave and rapidly sinking cases, a teaspoonful or so of old, fiery wine, Burgundy, Tokay or Rhenish, should be given every half hour, with thirty drops of the ammoniated tincture of musk.

Fullness and pain in the head calls for cold compresses to the head and mustard to the legs.

Stomach symptoms in this stage demand the same remedies as in the first.

The greatest caution is to be observed in giving food. A spoonful of good beef soup every three hours, and when reaction follows, tea or coffee with equal parts of milk, may be given. Only animal food should be given, simply prepared, and not even that till the tongue is clean and intestinal catarrh ceases. In the typhoid stage our chief duty is to regulate digestion. Ice and aerated waters are needed for gastric distress, followed by the bitters, with rhubarb. Constipation requires rhubarb, and perhaps aloes. For abdominal pains we give enemas of ether, f3 ij, in four ounces of water. Warm aromatic herb-baths are useful. The diet may be enriched only when the digestive organs have become perfectly normal.

Brown-Séguard states that hypodermics of morphine at the outset will prevent cholera.

A. L. Loomis recommends iced brandy or champagne, given repeatedly in small doses, as the best stimulants in collapse. Inhalations of amyl have also been found efficient in the advanced stages. If death threaten, whiskey may be injected hypodermically, or milk be introduced into the veins. Cerebral symptoms are treated by applying ice to the head and administering bromides.

N. S. Davis says that the first object to be accomplished by treatment is to restore the tonicity of the tissues, increase the vasomotor influence, and lessen the mucus irritability in the early stages. Failing in this, the object is to limit the loss of serum, prevent thickening of the blood, and maintain secretion and elimination in activity. Later, the most pressing need is to dilute the thickened blood, and maintain the action of the nervous centers of organic life. Finally, in the stage of reaction we must combat the inflammation and sustain nutrition.

For the preliminary diarrhoea he gives:

R.—Acid. sulph. aromat.....	f3iv.
Magnesia sulph.....	f3iv.
Tinct. opii.....	f3iv.
Elix. simp.....	f3j.
Aquæ.....	f3j.

M.—S. f3j, in a little water every three to six hours.

The dose is repeated every three hours, until the passages have been prevented for twenty-four hours, and then increase the interval until they occur once daily, of natural color and consistence.

If malaria be present, or the stools light colored, he adds to the above two grains of quinine and one of calomel, twice daily.

When active symptoms begin, he applies mustard over the stomach and spine, keeps the patient lying down with dry warmth to the extremities, and gives every half hour $\frac{1}{16}$ gr. strychnine and 10 minims of oil of turpentine, in emulsion. After each act of vomiting he gives morphine, gr. $\frac{1}{4}$, and calomel, gr. j, with a pellet of ice instead of any drink. He lays great stress upon giving this immediately after the vomiting; as if the patient be allowed to "rest a little" before taking the dose, the stomach will have regained some of its contractility, and some effused serum will have accumulated. At the same time he gives by the rectum 10 grs. of acetate of lead, and $\frac{1}{2}$ gr. of acetate of morphine, dissolved in two ounces of water. In the epidemic of 1866 he used this mixture in many cases instead of the calomel and morphine powder:

R.—Acid carbolic.....	gr. iij.
Glycerinæ.....	f3ijss.
Tinct. opii camph.....	f3j.
Aq. cinnam.....	f3jss.

M.—S. f3j after each vomiting.

In the early stages the patients are to be kept constantly in the recumbent position, the thirst relieved by pellets of ice, held in the mouth until smooth and then swallowed.

If the surface becomes shrunken, feet bluish, pulse feeble, and sweating copious, it is better to give at once a hypodermic of morphine, gr. $\frac{1}{8}$, and atropine, gr. $\frac{1}{16}$; and every fifteen minutes a tablespoonful of strong coffee or tea, alternated with the same quantity of well-salted broth.

If the hypodermic be insufficient, it may be repeated in half an hour to an hour. Dry warmth to the surface and extremities, with the horizontal posture, must be maintained throughout this stage. Wet applications reduce the heat and do harm thereby.

Frictions do more harm than good. Cramped muscles may be held in a firm grasp till they relax. Advantage has been derived from applying several times to the whole surface dilute mercurial ointment, with a liberal addition of powdered camphor and capsicum. If collapse ensue, the small chance of recovery is best promoted by rest in bed and the continued use of tea, coffee, and salt broth, as above. When reaction sets in, the treatment is the same as in the second stage of typhoid fever, which see. The free use of alcohol and heroic dosage are only productive of harm.

Milner Fothergill mentions approvingly the suggestion of Dr. Hall, who, basing his practice on the spasm of the arterioles, which cuts off the blood from the Malpighian corpuscles and stops the secretion of urine, gives hypodermics of chloral with satisfactory results.

Niemeyer says that as soon as persons are attacked by diarrhoea they should go to bed, send for a physician, and drink a few cups of hot coffee or peppermint tea, and take some "cholera drops." It cannot be denied that energetic diaphoresis occasionally averts an attack. This sweating must not be arrested too soon, and the patient must not be allowed to leave his bed until he has passed a formed stool.

Near the end of an epidemic, when the fatality becomes less, the "specifics" win a reputation which they are certain to lose during the first weeks of the next visitation.

For cholera diarrhoea he gives Dover's powder, five grains, repeated often till a formed stool is passed.

If the patient grows worse, opium is contra-indicated; and then he recommends cold compresses to the abdomen, and calomel, a grain every hour. The loss of fluid is obviated best by giving small pieces of ice, or a little ice water, at short intervals.

Collapse calls for stimulants; the best of all being iced champagne, or rum. Sometimes it is well to alternate with hot coffee.

Frictions relieve the cramps of the muscles. Sinapisms are useless at the time, and cause painful sores later. Solid food should not be allowed till pulpy stools appear.

Roberts recommends opium with acetate of lead, tannic, gallic or dilute sulphuric acid.

Bartholow strongly recommends for the cramps:

R.—Chloral hydrat. ʒij.
Morphine sulph. gr. iv.
Aque lauro-cerasi. fʒj.

M.—S. 15 to 30 minims to be injected hypodermically.

Ely McClellan strongly urges the use of sulphate of iron and sulphuric acid as prophylactics. He states that the mortality among patients treated with acids was only 8 per cent., while the lowest rate when other remedies were used was 23 per cent., and the highest 59 per cent.

W. Stevens gave a seidlitz powder at the start, and the following when the algid stage supervened:

R.—Sodii chlorid. ʒij.
Sodii carbonat. ʒij.
Potassæ chlorat. ʒij.
Aque. fʒvj.

M.—S. fʒj in water every half hour.

W. Sedgwick thought that phosphoric acid checked the disease more certainly than sulphuric acid.

George Johnson recommended castor oil at the beginning. We only mention this treatment to warn the reader against it. A full trial was given to it in India, and the deadly results induced the physicians there to lay down the rule: Never to give laxatives in any case of choleraic diarrhoea. Unfortunately, this dangerous mode of treating cholera, founded on theory and damned by trial, is continually being brought forward, especially since the discovery of the comma bacillus has given its supporters another fallacious theory for its employment—that of clearing the germs out of the bowels by purgation.

J. Murray, of the Indian Medical Service, recommends as a laxative:

R.—Pulv. opii. gr. j.
Piperis. gr. ij.
Asafoetidæ. gr. ij.

M. S.—At one dose, in pill.

There cannot be much purgative action in this, and it would be safer than castor oil, if circumstances should render aperient medication necessary. Camphor is sometimes added.

Squibb's diarrhoea mixture is a useful household remedy for cholera seasons:

R.—Tinct. opii depurat.,
Tinct. camphoræ, āā fʒj.
Tinct. capsici. fʒij.
Chloroform. purif. q. s. ad fʒv.
Alcohol (95 per cent.) q. s. ad fʒv.
M. S.—Adult dose, a teaspoonful.

For the preliminary diarrhoea, *Da Costa* recommends sulphuric acid, opium, and acetate of lead. If the discharges are not controlled by these remedies, he gives:

R.—Tinct. capsici. gtt. ij.
Tinct. opii. gtt. x.
Aque camphoræ. fʒj.

M. S.—Take every two or three hours.

If the stomach does not tolerate opium, give morphine hypodermically.

When true cholera develops, with cramps, vomiting and purging, restrict the use of drinks, and give pellets of ice with small doses of stimulants.

Keep the patient at rest.

Use frictions for the cramps; if not relieved, give twenty grains of chloral hypodermically over the abdomen, and apply a mustard plaster. These means will arrest the cramps and vomiting.

When reaction begins, be sure to look to the kidneys. If vomiting has ceased, allow fluids in large quantities. Act upon the skin with diaphoretics.

If reaction be not taking place satisfactorily, give five to ten grains of calomel, and follow with half a grain every hour.

If collapse be impending, persist with frictions, hot fermentations, mustard, turpentine, whiskey, etc.

If the patient be not too weak, a hot bath will be very beneficial. The use of hot applications is our best treatment. Give stimulants as long as they will be retained in this stage. They should also be given hypodermically. Caffeine, in doses of one grain and a half, has been used with benefit as a cardiac stimulant. If the patient continues to sink, and the blood becomes very thick, intravenous injections of fluids may be of benefit.

R.—Sodii chlor. ʒj.
Sodii carb. ʒij.
Aque. Ovj.

M.—Heat to 108°. Inject two fluidounces at once into a vein, and repeat until forty ounces have been injected.

There is a popular expression in India, to the effect that if at the beginning of the disease a dose can be administered which will bring the tears to the eyes, the attack will be averted. For this purpose mixtures are prepared resembling the following:

R.—Tinct. capsici.....	f ʒj.
Ol. cajuputi.....	f ʒiv.
Camphoræ.....	ʒij.
Chloroformi.....	f ʒij.
Aetheris fort.....	f ʒj.

M. S.—A teaspoonful without water every fifteen minutes until the reaction sets in.

I have frequently given this in cholera morbus, and can answer for its utility in that disease. (*Waugh*).

Macnamara gives inhalations of ether for severe cramps, in preference to injections of chloral.

Bartholow mentions tincture of camphor, gtt. v-x every half hour, with a little opium; arsenic; enemata of chloral, with morphine and atropine by the mouth or skin, the most efficient treatment; chloroform, or chlorodyne, a few drops frequently repeated; morphine hypodermically for cholera diarrhoea; carbolic acid with iodine; aromatic sulphuric acid with opium; strychnine as prophylactic during preliminary diarrhoea, and when nearing collapse; iced brandy for vomiting; transfusion of milk, or intravenous saline injections for collapse.

Ringer also favors camphor, gtt. v of strong spirits every ten minutes until symptoms abate, then hourly; arsenic for vomiting or collapse; copper salts; acetate of lead in early stages; spinal ice-bag for cramps.

Waring thinks turpentine, $\mathfrak{m}x-xx$, every two hours, promises to be of value.

Potter orders absolute rest, recumbent posture, no food, ice *ad lib.*, warm milk enemata, no stimulants, fresh air, friction and heat to abdomen, legs and feet.

Strumpell speaks emphatically of the importance of attending to the slightest gastric or intestinal disturbance when cholera is prevalent. The drug chiefly used is opium:

R.—Tinct. opii.....	$\mathfrak{m}xv.$
Vin. ipecacuanhæ.....	$\mathfrak{m}xlv.$
Tinct. valerianæ ether.....	ʒijss.
Ol. menthæ pip.....	gtt. v.

M. S.—Twenty to thirty drops every two or three hours.

The ethereal tincture of valerian is composed of 1 part of the drug to 5 parts of sp. ether.

When the attack is fully developed, the opium is continued; the patient is wrapped in warm blankets and rubbed, or inunctions of warm oil employed. Hot tea, strong coffee, broth, or mulled wine may be given. Hot baths have often proved

beneficial. Vomiting is to be controlled by morphine, or by ice. Cramps in the legs are to be controlled by hypos of morphine. Feeble heart action calls for cardiac stimulants, give champagne, or inject camphor or ether.

Samuel recommends subcutaneous or intravenous injections of a solution of salt, 6 parts; sodic carbonate, 1 part; and water, 1,000 parts, at 100° F. Great caution must be exercised about the diet during the attack, and for a long time after. Thin porridge, milk, broths and a soda biscuit at first, with dilute hydrochloric acid.

Shattuck summarizes thus: First stage, absolute rest, opium, and ice *ad libitum*. In collapse, the absorption of drugs is problematical; the utility of active internal treatment is questionable; opium narcotics are undesirable, so that he appears to be incapable of any recommendation beyond mild external stimulation and the tentative use of ice, champagne, or food, in small quantities. If nature can produce reaction, "careful nursing and a sensible symptomatic, but in no way meddlesome treatment."

Fagge found a simple alkali, with a little ammonia and peppermint effectual, in checking much of the diarrhoea occurring during a cholera outbreak. When collapse has developed, opium and astringents are useless or worse. Alcohol must be used cautiously, if at all. If a little weak brandy revives the pulse that fails without it, give the brandy. Ether or ammonia, properly diluted, may be given in any case unless nausea occurs. Ice-water may be given often, in half-ounce or ounce doses. For the cramps, morphine hypos or chloroform whiffs, or pure chloroform, or turpentine rubbed into the painful parts. Epigastric burning may be relieved by sinapisms or cold, locally. Warm flannels, hot bottles and hot baths are praised. The London Hospital's experience with intravenous saline injections was rather favorable. During convalescence, the soda salts should be given freely.

Hueppe advises atropine for severe toxemia. Salol lessens the anemia. The thickening of the blood may be checked by wet packing, or by enemata of a 5 per cent. solution of table salt, first washing out the rectum by hot tannic acid injections, or by solutions of acetate of lead.

Have the injections received, when expelled, into a 3 per cent. carbolic solution, to which a little crude muriatic acid has been added. During an epidemic, carefully protect the food from flies.

Groneman praises creolin—75 grains in 7 ounces of water, repeated as necessary.

Harkin advocates a blister over the right pneumogastric in the neck.

Ritter von Giacich claims good results from the internal administration of gum ammoniac, with stimulants and ether hypos.

Hayem recommends as prophylactic, 1 or 2 drachms of lactic acid daily. To cure, give as quickly as possible, a daily dose of $2\frac{1}{2}$ to 5 drachms.

Dawson Williams recommends rest in bed, and the withdrawal of food and drink. Relieve thirst by sucking ice. Mustard or a wet pack to the epigastrium.

Cantani's method consists in the injection of tannin solutions into the rectum. He employs a solution of 75 to 300 grains of tannin and 30 drops of Sydenham's laudanum, with 2 liters of water at 100° to 104° F., and, perhaps, 13 drachms of acacia. The fluid passes the ileocaecal valve by reverse peristalsis, destroys the bacilli, neutralizes the unabsorbed poison, keeps up the fluidity of the blood, osmosis and excretion of urea, and thus carries off the absorbed poisons. Besides this, he injects a saline solution subcutaneously. The results of this are startling in arousing an apparently moribund case. Enteroclysis is recommended for the early stages; hypodermoclysis for the algid and typhoid. If a case be first seen in an advanced stage, both are employed.

In Chili, when the bowels were loaded, at the beginning, calomel was given, followed by castor oil in an hour. The diarrhoea continuing, stimulants and carminatives were given, with large quantities of muriatic acid lemonade. Later, enteroclysis and mustard baths, at 102° to 104° F., for ten to fifteen minutes, followed by friction and a warm bed, gave very good results. In algid and asphyxia, warm baths were harmful. In the second stage of the typical diarrhoea, vomiting and cramps, enteroclysis was repeated every three or four hours, the diarrhoea usually ceasing after two or three enemas. When it failed, ergotin hypos had some success. Bloody diarrhoea betokened death. Here, the only

remedies that were useful, were ergotin and enteroclysis of ipecacuanha solution, 30 grains steeped for an hour in one quart of water. For the cramps, dry rubbing, mustard or turpentine; if very severe, ice frictions were employed. For vomiting, ice pellets, iced champagne, potio Riverü, and tincture of iodine in water. On the approach of the algid stage, ether, camphor and caffeine hypos, mustard and dry rubbing, hot baths and hot air baths. No food allowed. For the algid and asphyxia, hypodermoclysis, of 14 to 51 drachms, according to the pulse. If this failed, peritoneoclysis was tried, saving some. The indication was a normal temperature with absent radial pulse. The only evidences of ill were slight tenderness and tympanites. Absorption from the peritoneum was more rapid, the reaction lasted four hours, and perspiration appeared. The operator watched the result with his finger on the pulse. In the young and strong, 14 drachms sufficed; but, if the pulse did not reappear, the injection was increased up to 3 ounces. For beginning blood stasis, ice frictions ice-bags to the head and spine. For precordial pain and distress, ice-bags and ether hypos. For the typhoid state, enemas of sodium hyposulphite, 30 to 45 grains; quinine or salicylic acid, 1 to 1,000, with ice to head or spine; the soda salt for falling heat, the other for rising.

Penna prefers corrosive sublimate to tannin for enemas. Yoert thus used $3\frac{1}{8}$ grains daily, with a mortality of 9 out of 45 cases.

Pernice gave 75 to 150 grains of naphthalin daily, by the mouth.

Josias used thymol, 1 to 1,000, in all drinks.

Illingworth gives mercury biniodide, $\frac{1}{16}$ grain, three times daily.

Mangen used ether internally, to abort attacks.

Mossé had three recoveries out of eight algid cases, by using ice frictions or cold water. Pauly added to this forced locomotion, with good results.

Winternitz gives the palm to hydrotherapy.

Ross notes that the symptoms of cholera resemble those produced by muscarine, and hence deduces the use of atropine, which he gives hypodermically with morphine, over the stomach. He also gives

sulphuric acid with phenol, salol or betol, as intestinal antiseptics; and gallic acid, to form insoluble compounds with albuminous ptomaines.

Comerford injects liquid extract of ergot in the first stages.

Duboué concludes that all agents which prevent the division of epithelial cells (as nitrate of silver, sulphate of copper, tannic acid) may be prophylactic. To restore circulation in collapse, he suggests intravenous injections, tracheocentesis, and immersion in warm water for a few minutes at a time.

Loewenthal proposed salol, as the model intestinal antiseptic. He gives it in large doses. Reports in India have been doubtful, some favoring salol and others finding it valueless. The probability seems to be that it is of considerable value. *Loewenthal* took 150 grains in two doses, without any unpleasant symptoms, so that the drug may be given in large doses.

Hehir treated eleven cases with salol, giving 10 grains, with 15 minims of chloroform spirits, every two hours. Every case recovered, the symptoms abating gradually. *Nicholson* also reported favorably on salol; but *Surgeons Stevenson* and *Tomes* treated their cases in the same way, and the mortality was 66 per cent.; and in another Calcutta hospital every case treated by salol died.

Brown gave eucalyptol alone, 5 minims for adults, with a mortality of about 21 per cent.

Lauder Brunton mentions iced brandy, to stop vomiting and stimulate the heart; ammonia by intravenous injection; arsenic in small doses, to stop vomiting; calomel in minute doses, for vomiting; camphor, 5 minims of strong tincture, every ten minutes, with laudanum, while symptoms are violent; carbolic acid, $\frac{1}{2}$ grain, with tinct. iodine, 2 minims, every hour; chloral hydrate, hypos, alone or with morphine, in collapse; chloroform, 2 minims, alone or with opium, every few minutes, to stop vomiting; copper salts, for vomiting; creasote, for vomiting; acetate of lead, as astringent in early stages; morphine hypos, for cramps; saline injections; strychnine, for early diarrhoea and to prevent collapse; sulphuric acid, for early diarrhoea; milk transfusion, for collapse; turpentine, sometimes serviceable, 10-20 minims, every two hours.

Bartholow speaks very highly of chloral hypodermically. When the cramps are severe and the algid stage well advanced, large doses must be given. In one case, apparently hopeless, 60 grains were injected within two hours, with good effect. Atropine has great power in bringing on reaction, but must be used in small doses, or heart-failure results from over-stimulation; $\frac{1}{16}$ to $\frac{1}{8}$ grain is sufficient.

Sir Andrew Clark employed the following with great success at the London Hospital, during the stage of reaction:

R.—Hydrargyri cum creta..... gr. ij.
Pulv. ipecacuanhæ..... gr. ss.
Pulv. ipecac. comp..... gr. ijss.
M.—S. To be taken night and morning.

The indication is the dry and hard tongue. Salines, lemonade and chlorate of potassium drinks are freely given. Sinapisms or blisters to the nape of the neck helped to restore the urinary secretions.

Aitken characterizes the withholding of water as cruel and mischievous. Pure, cold water should be given in abundance, even urged upon the patient, in spite of vomiting. After purging ceases, Maclean gives enemas of pure water. Cold, wet compresses to the abdomen are grateful. A drink generally relished and retained is made by beating up a raw egg with half a pint of milk, a pint and a half of water, and salt to taste. Whey, weak chicken soup, milk and lime water, etc., may be drunk, *ad lib.* Enemas of warm milk, repeated as often as expelled, are of the highest importance if the stools have ceased. Anuria is to be dreaded when opium has been used too freely.

Maclean says that in drinking men, the vomiting of thick, tenacious, paint-like green matter, is a bad omen. Effervescing alkalies, free stimulation of the skin, and chloroform in small doses, form the best treatment. Nourish by the bowels, and give ice at will.

DOSIMETRIC TREATMENT OF CHOLERA.

—Copper arsenite, as a preventive, for children.

Zinc sulpho-carbolate, full doses, given frequently.

Morphine, to relieve pain and cramps, and for cholera diarrhoea.

Creosote, for cholera, and as preventive.

Strychnine arseniate, as prophylactic, and when pulse weakens.

Strychnine sulphate, tonic for failing heart.

Brucine, tonic for failing heart.

—From *Waugh's Outline*.

To raise the vitality: Period of cold: Strychnine arseniate, phosphoric acid, a granule of each every half hour till return of peripheric heat.

To promote a moderate reaction: Period of heat: Aconitine, digitaline, strychnine, a granule of each every half hour to defervescence.

To prevent relapse: Period of apyrexia: Quinine arseniate, four granules; strychnine arseniate, one granule, every half hour; soup; wine.

As internal prophylactics, strychnine, one granule; quinine hydroferrocyanate, three granules, every hour. Keep intestinal tract clear by daily use of seidlitz-chanteaud. Any tendency to colicodynia calls for the addition of hyoscyamine, one granule, all taken together. If reaction is slow, use electric currents, one pole in the closed hand and the other carried over the body from center to periphery. Repeat every ten minutes.

Internally, strychnine arseniate, one granule, quinine arseniate, two granules, every ten minutes. After stupor is dissipated and heat begins to return to skin, encourage by strychnine, aconitine and digitaline, two or three of each every ten minutes; also give small doses of tea, with rum added. Continued till sweating. For two weeks after amelioration, continue the arseniates of quinine and strychnine.—*Burggræve*.

News and Miscellany.

OUR POLYGLOT RULES.

MANY languages and dialects are spoken in our great cities besides the English. Among these the great mass of foreigners who cannot read English employ German, Italian or Hebrew. The Medical Inspectors have found in visiting these people that the excellent circulars issued by the Board of Health were often useless, as those who required them most were unable to comprehend them. The need was felt for a circular embodying the fundamental hygienic regulations, couched in the plainest words, so as to be within the reach of the most

limited comprehension, and printed in a language the recipient could read. This want we now endeavor to meet. The colloquial dialect is employed in all cases rather than the classical. It was found best to substitute Jargon for Hebrew, as those who are sufficiently educated to read the latter can also read English, while Jargon is the language of the recently imported Russian Jew, who knows no other tongue. These rules will be electrotyped, and should our readers desire copies they will be printed for public circulation. Should cholera appear in this country we will have the rules translated into any language in which they may be useful.

WHAT TO DO TO PREVENT CHOLERA.

HYGIENE OF THE DWELLING.

1. Remove all dirt and rubbish from the house, cellar, yard, alleys and gutters. Do not allow any more dirt to be deposited about the premises. Keep the cellar doors and windows open as much as possible. See that the cellar is kept dry. Mend all broken pavements. Do not keep any live animals; or, if you must keep them, remove every bit of their excreta, and clean them and their homes twice a day. Keep the alleys and gutters washed out clean. Sprinkle dry copperas over the cellar, yard, alley and gutter, every two days, using a pound, in small lumps, each time. Do not let dirt gather in broken paving about the hydrant. The greatest danger is from decaying animal or vegetable substances, especially when damp, and in badly ventilated places, like cellars.

2. Have the privy well emptied, if it is full to within three feet from the surface of the ground. This is required by law, and if the landlord does not do it, report to the Board of Health. If the well is not so full, but smells badly, have it disinfected—or do it yourself with chloride of lime. It will require about twenty pounds at first, or more, if the bad odor continues. Then have a box with twenty pounds of copperas in the privy, and tell every one who uses it to throw down a handful of the dry copperas. This is better than dissolving the disinfectant in water.

3. The greatest danger of all is where a privy well leaks into a cellar. This must be remedied at once, by emptying the well to the bottom and cementing the sides, digging out the foul earth and filling in with clean material. If this cannot be done, move out.

4. Take a look into your neighbors' yards and houses after your own have been put in order, and if anything is needed, ask them to see to it; if they do not, go to the Board of Health and report.

5. Report to the Board of Health if the streets, gutters and alleys are not kept clean. But do not wait for the city officials to move—it takes too long; for there are many to see to, and each must take his turn. Get the neighbors together, and clean up things yourselves. Let this be done regularly, so that the neighborhood is kept clean.

6. Stagnant pools should be drained; all piles of rubbish on vacant lots removed, or else well sprinkled with gasoline and set on fire. This is the only way to disinfect the refuse heaps in the outskirts, the dumping grounds. It should be done by men who understand gasoline, or frightful accidents may occur. After burning, the vacant lots should be fenced in, in such a way as to prevent any more dumping of rubbish.

7. Garbage should be burnt whenever it is possible. If not, the garbage boxes should be kept clean and emptied every day. Report to the Board of Health every day the garbage is not collected, and, in the meantime, drench it with chloride of lime solution, one ounce to the gallon of water.

8. Plenty of washing, plenty of air and light, plenty of whitewash, wherever these can be used.

WHEN CHOLERA IS IN THE CITY.

Healthy persons "catch" cholera by taking into their systems through the mouth, as in their food or drink, or from their hands, knives, forks, plates, tumblers, clothing, etc., the germs of the disease; which are always present in the discharges from the stomach and bowels of those sick with cholera.

Thorough cooking destroys the cholera germs; therefore, if cholera appears in the city, the following rules should be observed:

1. Eat or drink nothing except in your own home, and eat and drink your food

as hot as possible. Trust no restaurant or saloon. Wash your hands and mouth thoroughly before eating. Wear gloves. Don't put your hands or anything else into your mouth uselessly. Use cigar holder if you smoke.

2. Drink no water that has not been boiled at least half an hour. Hot tea is a good, safe drink.

3. Eat no raw fruit, meat or vegetables. Eat or drink nothing that has not been thoroughly and recently cooked or boiled.

4. Especially avoid all unripe or spoiled fruit, decayed, wilted or fermenting vegetables, decomposing meats, fish or fowls. Vegetables must be absolutely fresh, or must be let alone. Touch no fruit or other food exposed on public street stands.

5. The safest foods are such as keep best; salted or dry meats, and the cereals: wheat, oats, rice, barley, rye, tapioca, sago, and their products.

6. Use no milk that has not been boiled for half an hour. Use no cream at all.

7. See that all dishes and drinking vessels are kept perfectly clean. Dip all dishes into boiling water just before using them. Do not use a public cup, or one that strangers may have handled. If you must drink outside of your house, carry your own cup.

8. Have your sleeping and living rooms well ventilated.

9. Report promptly to your doctor on the first appearance of diarrhoea, dysentery, or any stomach or bowel complaint, however slight; and while waiting for the doctor proceed as if sure that it is a case of cholera. Don't wait, but send at once. If taken ill in the street seek the nearest drug store, dispensary, hospital, or police station, and demand prompt medical attention. Don't permit vomit or diarrhoeal discharges to come in contact with food, drink or clothing.

10. Avoid night air, excesses of every kind, over-eating, alcoholic drinks in excess, especially malt liquors, all exposure calculated to cause catching cold, and mental disquiet. Make no change in the accustomed routine, except as above advised. Take no purgatives. Take no medicine except by advice of a physician. Don't eat or handle food or drink with unwashed hands, or receive it from the unwashed hands of others. Don't use the hands for any purpose when soiled with cholera discharges; thoroughly cleanse

them at once. Do not use a strange privy during cholera prevalence.

PRECAUTIONS WHEN A CASE OF CHOLERA HAS OCCURRED.

1. Place the patient in an upper room, as far as possible from the rest of the family. Remove from it all articles not necessary, especially curtains, carpets, upholstered furniture, clothing. Have the room well ventilated.
2. Allow no one to enter the room but the doctor and nurse. Send every one else out of the house who can be spared.
3. Hang over the door a sheet wet with a solution of chloride of lime, two ounces to the gallon of water, and let the sheet dip into a vessel containing this solution, so that the sheet will be constantly wet.
4. The nurse must have a wrapper over her clothes, that is to be removed whenever she leaves the room.
5. A tub of water must be in the sick room containing a pound of chloride of lime to ten gallons of water. Every article of clothing coming off the patient, the nurse, or the bed, must be soaked over night in this before it is taken from the room. A smaller tub of the same solution must be provided, in which all dishes and other things used by the patient must be washed before they are taken from the room. The nurse must rinse her hands in this every time she touches the patient or his belongings.
6. Another vessel must have in it a solution of chloride of lime, 5 ounces to the gallon, or carbolic acid, 6 ounces crystallized acid to the gallon. Any clothing soiled by the patient's stools must be put to soak in this for four hours. Every stool and all vomited matter must be received into a chamber or bed-pan containing a pint of this strong solution, and allowed to stand for two hours before being emptied. When it is possible, the stools and soiled linen should be burnt. A good way is to mix them with sawdust, when they can be easily burnt.
7. The best bed is a woven wire frame with simply a blanket or two over it, and no mattress. If a cholera stool be passed into a mattress the latter becomes extremely dangerous, and should be burnt.
8. Sprinkle the floors, bed, and clothing several times daily with Sanitas disinfectant fluid. A bed of sawdust under the bed, saturated with this substance, or

with Platt's chlorides, is of great value. These are preferred because they can be used in large quantities without any injury from the fumes.

9. After the patient has recovered or died, every thing in the room should be burnt, and the room disinfected by competent experts.

MITTEL UND GUTE RATHSCHLÄGE DER CHOLERA VORZUBEUGEN.

REINLICHKEIT DER WOHNUNGEN.

1. Aller Schmutz, Schutt und andere Abfälle ist von dem Haus, Keller, Hof, Durchgänge, Gossen, rinnsteinen sofort zu entfernen.
Kein Schmutz etc darfsich irgendwo im Haus oder Hofe ansammeln. Die Kellerthüren und Fenster lasse offen so viel als möglich.
Halte den Keller im trockenen Zustand. Das Pflaster um das Haus herum sollte ausgebessert werden wo es nur immer Lücken hat.
Lebendige Thiere sollten nicht im Hause sein und wo es nicht anders sein kann, entferne jede natürliche Absonderung und reinige ihre Behälter taglich zweimal.
Die Gänge und Wasserinnen müsten stets rein gespült werden.
Streue trockener grüner Vitriol über den Keller boden Gänge und Wasserrinnen alle zwei Tage wozu jedesmal ein Pfund in kleine Stückchen gebrochen, gebraucht werden sollte.
Schmutz darf sich auch um die Wasserleitung im Hofe (Hydrant) nicht ansammeln. Die grösste Gefahr besteht hauptsächlich in faulen thierischen oder Pflanzen resten, besonders wenn solche in feuchten, luftlosen Plätzen wie Keller etc sich anhäufen.
2. Aborte sollen geleert werden sobald sie bis auf 3 Fuss von der Oberfläche voll sind. Dieses is ohnehin Gesetz und sollte sich der Hauseigenthümer weigern, gehe zur Sanitäts Commission (Board of Health).
Ist die Grube nicht so voll und riecht es übel, siehe das desinficirt wird oder thue es selbst mit Chlorkalk. Man braucht ungefähr zwanzig Pfund und mehr wenn der Geruch fortfährt schlecht zu sein.

Stelle eine Kiste mit zwanzig Pfund grüner vitriol in den Abort und siehe zu, dass jedes welche den Ort benützt eine Hand voll hinunter wirft. Dieses Mittel ist besser als derartige Chemicalien im Wasser aufzulösen.

3. Bei weitem die grösste Gefahr jedoch besteht darin, wenn ein Abort in einem Keller durchsickert oder hinein läuft. Dem muss sofort abgeholfen werden und zwar muss der Abort vollständig geleert, die Seiten cementirt, die faule Erde ausgegraben und fortgeschafft und frische eingefüllt. Wenn dieses nicht geschieht, verlasse ohneweiters die Wohnung.

4. Ist dein Haus und Hof in Ordnung siehe über den Zaun in deines Nachbarn Hof und sollte es darinnen nicht gut bestellt sein ersuche die Nachbarn dem übel abzu helfen, thun sie es nicht, gehe zur, sanitäts-Commission und theile es demselben mit.

5. Sollten die Strassen, Wasser-rinnen, und Gänge nicht rein gehalten sein, gehe zund Gesundheitsrath und rapportire es. Warte aber nicht bis die städtischen Beamten eingreifen,—das dauert zu lange. Besser sich mit den Nachbarn zu verständigen und es selbst zu thun.

6. Stehende Pfuhle, Lachen, etc., sollen abgelassen werden; alle Schmutz und andere Abfälle auf leeren Plätzen müssen entweder fortgeschafft oder gasoline darüber geschüttet und verbrannt werden.

Dieses ist der einzige Weg die Schmutz und Affall haufen, welche täglich in den ausser und um die Stadt liegenden Feldern sich massenhaft anhäufen zu desinfectiren.

Esware aber zu empfehlen dass Männer welche mit Gasoline umzugehen verstehen diese Arbeit thun sollten sonst könnte grosses unglück entstehen. Nachdem derartige Plätze gründlich gereinigt sollten sie eingezäunt werden, so dass ferner hin kein schmutz mehr abgeladen oder hingeworfen werden kann.

7. Küchen abfälle (Garbage) sollte wenn irgend möglich sofort verbrannt werden. Wenn nicht muss der Kübel reingehalten und jeden Tag geleert werden.

Mache sofort anzeige bei dem Gesundheitsrath, im Falle die Küchen Abfälle nicht jeden Tag abgeholt werden, während dessen schütte eine Auflösung von Chlorkalk (eine Unze auf eine Gallone Wasser) darüber.

8. Viel Waschen, viel Luft und Licht,

Kalk oder ausweissen und anstreichen wo es nur immer möglich ist.

WENN CHOLERA IN DER STADT IST.

Gesunde Personen bekommen cholera wenn sie den Keim der Krankheit in ihr Körper aufnehmen.

Dieses kann auf folgende Weise geschehen; Durch den Mund, also durch Essen und Trinken; durch die Hände, Messer, Gabeln, Teller Gläser, Kleider, etc.

Diese Keime werden stets bei den Cholera kranken in ihrem Auswurf oder Stuhl abgag gefunden.

Gutes Kochen zerstört die Cholera Keime, deshalb sollten die folgenden Regeln beobachtet werden, wenn die Krankheit ausbrechen sollte.

1. Esse und trinke nichts ausser in deinem eigenen Hause, vertraue weder dem Restaurant noch der Bierwirthschaft.

2. Drinke kein Wasser, wenn es nicht wenigstens eine halbe Stunde gekocht hat. Thee ist gut und sicher.

3. Esse beileibe kene ungekochten Früchte, Fleisch oder Gemüse.

4. Vermeide hauptsächlich, unreifes oder angefaultes Obst, abgewelktes oder gährendes Gemüse, faules Fleisch, Fische oder Geflügel.

Gemüse müsten vollständig frisch sein oder esse lieber gar keine.

5. Die beste Nahrung ist immer die welche sich am besten hält; eingesalzenes oder gedörtes Fleisch und von Getreide arten. Weizen, Haber, Reis, Gerste, Korn, Tapioca, Sago sind am bestem.

6. Gebrauche keine Milch wenn sie nicht eine halbe Stunde gekocht worden. Kein Rahm sollte gebraucht werden.

7. Siehe zu, dass alle Teller und Drink gläser vollständig rein sind.

Benütze kein öffentliches Drinkgefäss oder solche von dennen. Leube im Allgemeinen trinken als auf öffentlichen Plätzen, Eisenbahnen, etc.

Bist du gewohnt ausser deinem Hause zu trinken, so führe deinen eigenen Becher mit dir.

8. Lüfte dein Schlafzimmer und deine Wohnzimmer.

9. Schicke zu deinem Arzt sobald sich der leichteste Durchfall, Ruhr Dysenterie, oder irgend eine Unordnung im Magen oder den Gedärmen bemerklich macht. In der Zwischen zeit, bis der Doctor kommt, verhalte dich als wenn du wirklich die Cholera schon hättest.

Zögere daher nicht und sende sofort für den Arzt. Solltest du auf der Strasse krank werden, gehe zum nächsten Apotheker, Spital, Dispensatorium, oder Polizeistation und verlange sofortige Hülfe.

Sehe zu dass ja kein Auswurf vom Erbrechen oder Stuhl an die Kleider, noch ins Essen oder Trink baren Stoffen kommt.

10. Hüte dich vor Nacht luft, überanstrengung oder Umnässigkeit im Essen, geistigen Getränken hauptsächlich Malzgetränken; setze dich nicht der Gefahr aus eine Verkältung zu nehmen. Bleibe ruhig im Gemüthe. Ändere deine Lebensweise nicht weiter als die eben gesagten Vorschriften gehen.

Nehme keine Abführmittel. Keine Arznei ohne deinen Arzt.

Esse und trinke nichts ohne deine Hände gewaschen zu haben, berühre auch nichts von Andern deren Hände ungewaschen sein könnten.

Sollten die Hände mit Cholera Auswurf beschmutzt werden wasche dieselben sofort.

Gebrauche keinen fremden Abort während der Cholera zeit.

VORSICHTSMASSREGELN IN EINEM CHOLERA FALLE.

1. Bringe den Kranken in ein Zimmer im oberen Stock, so weit wie möglich von der Familie; nehme alle Gegenstände nicht unbedingt nöthig, heraus, z. B. Vorhänge, Teppiche, gepolsterte Möbel, Kleider etc. und lüfte das Zimmer.

2. Lasse Niemanden ins Zimmer ausser den Arzt und die Wärterin. Alle andere sollten das Haus verlassen so viel als möglich.

3. Die Thür verhänge mit einem Bettuch benetzt mit Chlorkalk zwei Unzen auf eine Gallone Wasser. Lasse das Bettuch in ein Gefäss hängen, welches diese Auflösung enthält, so dass es immer nass bleibt.

4. Der Wärter oder die Wärterin muss einen Überwurf über die Kleider haben, welcher beim Verlassen des Zimmers abgelegt wird.

5. In dem Krankenzimmer muss stets ein Kübel mit Wasser und 1 Pfund Chlorkalk auf zehn Gallonen Wasser enthalten jeder Gegenstand, Kleidungsstück von dem Kranken oder der Wärterin muss in diesen Kübel über Nacht liegen ehe es aus dem Zimmer getragen werden darf.

Ein kleinerer Kübel mit derselben Auflösung hat ebenfalls in Zimmer zu sein, darinnen haben alle Teller und andere Sachen die der Kranke gebraucht gewaschen zu werden bevor sie aus dem Zimmer gebracht werden dürfen.

Die Wärterin muss ihre Hände in dem Gefässe waschen sobald sie irgend etwas berührte sei es der Kranke oder die von ihm gebrauchten Dinge.

6. Es muss ferner noch ein drittes Gefäss in Zimmer sein. In diesem muss eine Auflösung von Chlorkalk 5 Unzen auf die Gallone, oder Carbonsäure (6 Unzen) chrestallisirte säure auf die Gallone.

Alle beschmutzten Kleidungsstücke sei es durch Auswurf oder Abgang müssen 4 Stunden in dieser Auflösung liegen. Für jeden Stuhl abgang hat ein Nachtgefässe oder Bettgefäss mit einer Pinte (halbe Kanne) von dieser starken Auflösung bereit zu sein, und zwei Stunden darin zu bleiben, bevor das Gefäss geleert werden darf.

Das beste wäre, wenn je möglich, den Stuhl abgang und beschmutzten Tücher zu verbrennen, welches leicht geschehen kann wenn die Sachen mit Sägespäne gemischt werden.

7. Das geeignetste oder best Bett wäre ein Drahtgestell mit einer oder zwei Decken aber kerner Matratze. Kommt ein Stuhlengang in die Matratze so ist das sehr gefährlich und sollte dann dieselbe unbedingt verbrannt werden.

8. Bestreue den Zimmerboden Bett und Kleidungsstücke täglich mehreremal mit "Sanitas disinfecting fluid." Ein sack Sägespäne getränkt mit diesem Fluid oder mit "Platt's chlorides" ist sehr zu empfehlen. Diese letzten haben den Vortheil dass man gross Quantitäten gebrauchen kann ohne Gefahr von dem Rauch zu fürchten.

9. Nachdem der Kranke genesen oder gestorben ist, sollte alles im Zimmer Vorkandene verbrannt oder von erfahrenen Leuten desinficirt werden.

COSA SI HA DA FARE PER PREVENIRE IL COLERA.

PULITEZZA A CASA.

1. Ogni immondezza, come stracci, calcinaccio e qualunque miscuglio mal sano devono essere allontanati dalla casa dalla cantina, dal cortile, dalle grondaie e dai passaggi o viottoli.

Non permettete che si accumuli un'altra volta robbaccia attorno.

Aperte la porta e le finestre della cantina e lasciatele aperte per quanto sia possibile.

La cantina deve essere ben asciuta. Il lastricato e special mente i mattoni attorno la casa devono essere riparati.

Non tenere animali vivi, e se non potete far altrimenti fate portar via ogni escrezione e pulite le loro gabbie o i luoghi dove questi animali sono tenuti due volte al giorno.

Viottoli e grondaie o gronde hanno d'essere ben lavate. Spargete vitriolo (copperas) secco nella cantina, nel cortile, nei viottoli almeno ogni due giorni circa una libra in piccoli pezzetti.

Il più grande danno però viene da cose putrefatte sia di animali o de vegetabili e special mente nelle cantine o luoghi umidi e mal ventilati.

2. Le latrine debbono essere votate se sono piene fino a 3 piedi dalla superficie. La legge provvede per questo e se il padrone di casa non lo vuol fare allora si va all'ufficio della sanità (Board of Health). Se il luogo comodo non è, troppo pieno ma se c'è cattivo odore bisogna che sia disinfettato o purgato con "Chloride of lime," del quale ci vuole almeno 20 libbre al principio o più se il mal odore continuasse.

Purgato che sia, mettete una cassetta con 20 libbre di vitriolo nella latrina del quale ogni uno che usa il luogo deve gettare una mano pieno giù. Usando il vitriolo in pezzetti fa più ngetto che scioglierlo in acqua.

3. Di tutti i pericoli il più grande è quella quando la latrina filtra dentro in cantina.

Questo dev'essere rimediato all'istante votando la fossa fino al fondo, cementando le parti laterali, cavando fuori la terra corrotta e rimettendo fresca. Se non si può far questo sprattate.

4. Guardate anche nei giardinio cortili dei vostri vicini, civè soltanto dopo che da voi sia tutto in buon ordine, se poi vedete qualche cosa storta dagli altri allora persuadeteli di fissar anche loro le cose come si deve; se non lo fanno andato all'ufficio della sanità.

5. Priferite anche se vedete strade gronde, viottoli o passaggi fra le case se non sono puliti.

Ma se aspettate fino le cose siano rimosse dagli guardie civiche andrebbe

male, la migliore cosa, è di farlo subito da se ocoll'amito con i vicini.

6. Fossate con acqua stagnata devono essere fognate; mucchi di immondezze in luoghi solitarii bisogna che siano portati via o buttato sopra un poco di gasoline e bruciateli.

Questo è la miglior maniera per disinfettare i mucchi di immondezze che sona a monti da per tutto attorno della città.

Depo che questa robbaccia sia distrutta bisognerebbe fare uno steccato per impedire che si accumuli un'altra volta tanta sporchizzia.

7. Avanzi di legumi o vegetabili dovrebbero essere bruciati se alquanto possibile. Se no, allora badate ben che i secchi o vasi ove tali cose sono messi siano ben lavati e votati ogni giorno. Se l'uomo che porta via questi avanzi (garbage collector) non viene rapportatelo subito all'ufficio della Sanità, e intanto versate una soluzionne di "chloride of lime," 1 oncia al gallone nel recettacolo.

8. Molto lavare, assai aria e luce e biancheggiare cod la calcina ovunque si può.

SE IL COLERA È NELLA CITTÀ.

Persone in buona salute pigliano il colera per la bocca civè mangiando o bevendo, dalle loro mani, coltelli, forchette, piatti, bicchieri, abiti, etc., etc., i germi di questa malattia si attaccano sopra ogni cosa e quindi trovano la via nel sistema come or ora menzionato.

Le escrezioni dei maladi sono pieni di questi germi.

Se i nutrimenti sona ben cotti o cucinati i germi possono essere distrutti. Ecco dunque alcuni regole se il colera venisse:

1. Non mangiare nè bere fuori da casa vostra, non vi fidate del ristorante nè del venditore di birra civè il "saloon."

2. Non bere acqua se non ha bollito per almeno una mezz'ora. Tè si può bere questo è salvo.

3. Non mangiar frutta fresca, nè carne crudo nè legumi. Infine non mangiate e non bevete niente che non fosse cotto ben bene.

Non toccare sopra tutto frutta non matura o gudstata, vegetabili appassiti o acidi, carne mal andata, pesci o volatili decomposti. Legumi devono essere assolutamente freschi o lasciateli stare affatto.

5. Mangerie che si possono preservare sono da preferire e sono più salve come; carne salada o secca e dei cereali, frum-

ento, vena, riso, orzo segato, tapioca, sago, etc., sono buoni.

6. Non usar latte senza far lo bollire per una mezz'ora. Crema non dovrebbe essere usato affatto.

7. Badat e che i piatti scodelli bicchieri etc. sono ben puliti. Non usare bicchieri, coppe alle pubbliche fontane o in ferro vie ove qualunque si serve con lo stesso bicchiere. Portate un vostro bicchiere o coppa se volete bere fuorila vostra casa.

8. La camera da letto e anche la cucina il salotto infatti tutta la casa dev'essere ben ventilata.

9. Appena vi sentite un pò strano nell'estomaco o nei intestini o con la minima diarrea (scioglimento di viscere) mandate o andate subito dal dottore, e figuratevi di aver già il colera. Quindi non trascurate. Se vi sentite mal per la strada, andate kal prima farmacista, o all'ospidale più vicino od anche alla stazine di polizia, e cercate rimedio. Badate bene che nulla del vomito o della diarrea viene in contatto con cibi, bibite o abiti.

Non esponetevi all'aria notturna non vi eccitate, non mangiate troppo guardatevi di bibite spiritose, tenete la mente quiéta e cercate di non pigliar un raffrettato.

Non vi purgate a buoni conti non pigliate medicina senza il dottore.

Non mangiate o toccate cibo o bevanda senza aver le mani lavate e non pigliate neanche niente dagli altri che avessero le mani poco pulite. Non usate le vostre mani per qualunque cosa se sono state in contatto con escrezioni di maladi di colera senza ben lavarle. Non andate a un luogo comodo in un altra casa durante la presenza del colera.

PRECAUZIONE IN CASO DI UN ATTACCO DI COLERA.

1. Mettete il paziente in una camera al piano superiore, quanto pin lontano dalla famiglia, tanto meglio. Levate tutti gli articoli dalla camera, come le tende, i tappeti le mobilie imbutite, sofa, poltrone, etc. Che la camera sia ben ventilata.

2. Non permettere ad alcuno di entrar nella camera eccetto il Dottore o il infermiere. Che tutti vanno via dalla casa quelli che possano alquanto.

3. Attacohi un lenzuola bagnata in una soluzione di "chloride of lime, 2 once a

un gallone d' acqua e fa che il lenzuolo resti in parte nel bacino che contiene la soluzione, questo fa che resta sempre bagnato.

4. L'infermiere dev' essere coperto con una sopra vesta "wrapper" che può levare ogni volta che lascia la camera.

5. Tieni un tubo di acqua nella camera contenente una libra di "chloride of lime" a 10 gallone d' acqua. Ogni oggetto venendo dal malado, dall' infermiere, dal letto dev' essere messo in questo tubo e lasciatovi una notte prima di essere portato fuori la camera.

Un altro tubo più piccolo dev' essere preparato nel quale tutti i piatti ed altre cose usate dall' ammalado devono essere lavate prima di portarle fuori dalla camera.

L' infermiere deve lavarsi le mani ogni qualvolta abbia toccato qualche cosa del paziente anche se fosse stato soltanto qualche vestimento.

6. Un terzo bacino o simile bisogna contenere una soluzione di "chloride of lime" 5 once al gallone, o anche acido carbolico (carbolic acid), 6 once acido cristallizzato al gallone. Ogni vestimento o panno sporcato dalle escrezione dell' infermo debbono essere per 4 ore in questa soluzione. Ogni passaggio dev'essere in un vasso da notte contenente una "pinta" di questa forte soluzione e edeve starvi per 2 ore prima di essere votato. Se possibile le escrezioni e le lenzuola spercate dovrebbero essere bruciate.

7. Il miglior letto e un materazzo di fil di ferro, una o due coperte e non materazzo di stoffe.

Se un escrezione da un malado viene in contatto con un materazzo il caso diventa terribile pericoloso ed è miglior di bruciar tutte.

8. Sparge la terra, la cammera, i vestimenti, il letto differente volte con un fluido chiamato "Sanitas disinfectant fluid." Un sacco pieno di legatura sotto il letto bagnato ben in questa soluzione o con Platt's chlorides vale assai. Queste sono da preferire perchè possono essere utilizzati senza danno dai fumi.

9. Dopo che l'infermo è fuori danno o ristabilito, o dopo che sia morto si dovrebbe bruciare tutte le cose e la camera disinfettato da qualche duno che ha esperienza.

מיטטער צו פארהיטען דיא כאלעריא.

גענוגדייטס לעהרע פיר וואהנדייזער.

1. מען זאלל אויסרייניגען אללע שטומץ אין אבפאך פאן הוז, קעלדער יארד זייטען דורך נאנא אין אבנים רינען אונד מען זאלל זיך ניס ערליכען צו בער אומצוכטיגען דיא הויז, מען זאלל אפפערן האלטען דיא מירען, פלעסטער פון הויז אין קעללער וויא פיעל מעגליך, און דאס דער קעללער זאלל זיין אימער צו אין איינע טרוקענע צושטאנדע. וועגן מען האלט פיה דאן זאלל מען זיין אין זייערע פלעסטער רייניגען 2 מאל טעגליך, מען זאלל זעהן יעדען טאג צו וואשען דעם פלאאר, יארד, אויפערע נאנא און פיימענט און אויסשיטען מיט טרוקענע וויארטעל אין אללע דיא פלעסטער און אין קעללער, דאס גרעסטע גע- פאר איזט וועגן מען ניס אויפפאסט אויף פיה צוכס אדער דומפיעל נעשיער וועגן אין שלעכט ריכענער פלעסטער.

2. ווען דער וואסער קלאזעט איז בעדעקט מיט שטומץ 3 פוס פון גרונד זאלל דאס זעלבע בער ריכטעט ווערדען ביי געריכט און ווען דער אייגענט- הימער קימערט זיך ניס וועגען דעם דאן זאלל דאס זעלבע בעריכטעט ווערדען אין באארד און העלטה אפפיר, וועגן דער וואסער קלאזעט האט א שלעכטען גערוך דען זאלל מען אויסשטירען מיט אונגעלאשענע קאלף אונד דאס בעסטע ווען מען זאלל האלטען אין וואסער קלאזעט א באקס מיט קופער וויארטעל אונד ווער עס בענוצט דעם וואסער קלאזעט זאלל א רויף שיטען פאן דאס זעלבע זא דאס דיא שטומץ זאלל ניס צופיערט ווערען אין וואסער.

3. דאס גרעסטע געפאר איזט ווען עס רינט אריין פון וואסער קלאזעט און אין קעללער דאן זאלל מען דאס רעפארטען אין באארד און העלטה אונד וועגן דאס זעלבע ווירד ניס אויפ- גערייניגט ביס צום גרונד דאן זאלל מען געבערשט ארייס מופען פאן דאס הויז.

4. אונד דאס זעלבע ריינפליכקייט אויפער פאסטע דאס דיא נאכבארען זאללען זיין אונד ווען מען קענן מיט זיין ניס אויפפיערען דאן איז איהר רען פפליכט צו רעפארטען אין באארד און העלטה. 5. מען זאלל ניס ווארטען אויף דיא שטאט פערוואלטע דאס זיין זאללען בעאויפטראנען דיא סטריט אין דיא אבלייך-רינען צו רייניגען.

6. איינען שטעהענדיגן זומף זאלל מען מא-

כען אויסטרייקענען, א מיסט הויפען אויף א נר-ע- דינפטען פלאטץ זאלל מען אפראמען אדער בעניפען מיט נאזאלין און אונטערצינדען דעם איז דיא איינ- ציגע וועג דעם שטומץ אין דעם שלעכטען גערוך פון דעם זעכטען פלאטץ צו פערמיידען און מען זאל ארום צאמען דאס מען זאלל מעהר קיין מיסט דארט איבער בריינגען.

7. שלאפ און פערוועלסטע שפייע זאלל מען פארברענען ווען נור מעגליך אויף זאלל מען דיא שלאפ באקסען ריין האהפען אונד אויסלעדיגען יעדען טאג, און ווען מען קומט ניס צו נעמען דיא שלאפ דאן זאלל מען בעריכטען אין באארד און העלטה.

8. מען זאלל אימער צו די רומס וואשען און וועגן נויטהווענדיג איזט זאלל אימער צו לופטיג זיין.

ווען דיא כאלעריא איז אין שטאדט.

געזונדע פערזאנען ווערדען אנשטעקענד מיט כאלעריא פון אומגעזונדע שפייע אונד געטרענ- קע אדער וועגן זיין פאסטען מיט אונגעוואשענע שטומציעל הענד אדער ווען זיין בענוטצען שטומציר גע נעשיהר אדער שטומציעל כלי. דערדער פארפאל פון כאלעריא איז ווען מען פיעלט ניס גוט איבלונג און לייז ליב דאס איז דיא כאלעריא קראנקהייט. איבער פארדארבענע שפייע פארברייטעט זיך דיא כאלעריא עבען דארום איז נאמאטענדיג צו ערקלערען דיא פאלגענדע רעגעלן:

1) דאס מען זאלל אנדערשטוואו ניס עספען וויא אין דעם אייגענעם היימאטה און מען זאלל זיך ניס אונפערטרייען אין רעסטוראנט אדער אין א סאלון. 2) מען זאלל קיין רייע וואסער טרינקען אונד וועגניסטען זאלל זיין געקאכטע א האלבע שטונדע, דאס זיכערסטע געטראנק איז טהע. 3) מען זאלל איבערהויפט ניס עספען קיין רייע פרוכט, פלייש גייש געפויגעל אין גרינשען שיידען ווען עס זאלל זיין גוט געקאכט און וועגן ניס זאלל מען עס בעסטער ניס עססען. 5) דיא געזונדסטע אונד זיכערסטע שפייע וואס מען קען עספען איז נור דאס וואס האלט זיך אימער אין גוטע צו שטאנדע אלעס גע- פראקענע און געזאלצענע פלייש געטרייע פראדוק- טוכ פאן וויין ריין גערשטען פארן א. ד. ג. 6) מען זאלל קיין ווערע שטאנט ניס גוטצען מילך קאן מען גוטצען ווען מען אויפגעקאכט בעפאר עספען. 7) אויף צופאסטע דאס אללע געשיער אין ריינעם צר שטאנד צוהאלטען וויא אויף פערטער געשיער ניס צו בענוטצען, ווען מען אויסגעהען ווילל זאלל מען א אייגענע קאפי מיט געהמען צו טרינקען. 8) מען זאלל אימער וואס מעגליך אפפערן האלטען דיא

פילערען אונד פלענפערס אום דאס גוט זאלל אויס-
געלופערט זיין. (9) ווען מען פיעלט נים זוט אס
מאנען אדער וועלכע אינערליכע שמערצען דאן זאל
מען באלד וואס צום שנעלסטען אדאקטאר פא-
רופען און מען זאל זיך נים אפלאזען ביז דיע צייט
ווען דער דאקטאר קאמפט ווען מען פיעלט נים גוט
ווען מען איז אויף דער שטראפסע דאן זאלל מען
באלד בעזוכען דיא נאהענסטע דרוג ספארע, דיס-
פענסערע, האפפיטאל אדער פאליס שטייסען אונד
בעטען פיר א ארצטליכע אונטערזוכונג מען זאלל
קיין אפפירונג אדער ברעך מיטטעל בענוטצען. 10
מען זאלל זיך בעווארענען פון צופיעל נאכט לופט
געניסען אויך נים איבערמאס עססען אונד טריי-
קען אלקאהאל איבער הויפט נים צוטרנקען קיינע
מאלץ ליקערס וואס דאדוור בריינגט דיא פארקעל-
טערונג, מען זאלל קיינע היימעשע מעדיצין נעהמען
נור ווען מען איז פארארדערט פון א דאקטער, מען
זאלל נים עססען אדער בערייען מיט שמוטציגע
הענד אדער פון אנדערע שמוטציגע הענד וועלכע
זיינען א געשמעקט פון כאלעריא, מען זאלל נים בע-
נוטצען א פרעמדען וואטער קלאזעט ווען דיא כאלע-
רא איז אין שטאדט.

ווען א פארפאל פון כאלערא האט געטראפען אין
אין הויז.

(1) מען זאלל דעם קראנקען אפזאנדערען פון
דיא גאנצע פאמיליע און אפארטען אבערשטען צימ-
מער מען זאלל דעם ציממער אויסלעדיגען וויא פיעל
מעגליך איז איבערדויפט נארדיגען קארפעטס, באצור-
גענע פאָרניטורע קליידער א. ד. ג. אויך מען זאלל
דעם ציממער לופטיג האלטען.

(2) קיינער זאלל נים ערלייבט זיין אין רופ
אריין צוגיין אויסער דער דאקטאר און דיא ווארטע-
רען אין אלגעמיין זאלל מען אפטרעטען וועגן מען
קאנזיד העלפען אנדערטווא לאדזירען.

(3) דיא טהיר פון ציממער זאלל זיין בעשטענ-
היג פערהאנגען מיט א נאשען לאקען אין וועלכע
זאל אבענווייקט זיין פון א מיקסטור פון 2 אינצעס
כלאריד אף ליים אין א גאלאן אף וואסער.

(4) דיא וועכטערען זאלל האבען א ראפער
צו איהרע בעדינונג דעם קראנקען און ווען זיא פער-
לאזט דעם ציממער דאן זאלל זיא זיך דעם רא-
פער אפנעמען.

(5) א מיקסטור פון 1 פונט כלאריד אף
ליים אין 10 גאלאס וואסער צו וואשען אללע
קליידער און העטערע וויא אויך בעמציג וויקען

אונד וואשען גוט בעפאר מען טראנט עס ארויס
פון ציממער אונד נאך א קלענערע כלי פון דאס
זעלבע מוז זיין אפגעוואנדערט אין וועלכע מען זאלל
וואשען אללע געשיר, דיא וועכטערען זאלל וואשען
דיע הענד אין דעם זעלבען מיקסטור צו יעדע צייט
ווען זיא בעריהרט דעם קראנקען אדער זיינע
קליידער.

(6) א שטארקער מיקסטור פון 5 אינצעס
כלאריד אף ליים אין א גאלאן וואסער אדער
קארבאלינא אסיד אין 6 אינצעס קריסטאל אסיד
אין א גאלאן אין דער זעלבען מיקסטור זאלל זיין
פיר אללע שמוטציגע קליידער וואס פון דעם קראנ-
קען אראפ קאמט.

(7) דיא בעט זאל ווען אין ווען געפלאכטען
אריבער געשצרייט מיט א בלאנקעט און קיין מאט-
רעס בענוטצען ווען שטוהל אפגאנג אדער וועלכע
שמוץ פון קראנקען אויף א מאטראסעס איז זעהר
געפעהרליך מען זאלל באלד פארברענען.

(8) מען זאלל אויס שפריטען דעם רום מיט
איינען ריכענדען ספירט אויך דאס זעלבע זאלל מאן
אויס מישען מיט זענאכין אונטערן בעט אויסשיטען
(9) ווען דאס קראנקער איז געזונד געווען
אדער געשטארבען ר'ל זאלל מען אללעס פון ציממער
פארברענען אונד דאס ציממער גוט אויס שפריטען
מיט ספירט אונד ווען איהר וועט אללעס היטען
ווירד איהר פון אללע שלעכטעס בעווארענד זיין.

It is earnestly to be hoped that the orders given to shoot any one attempting to board the cholera-ship Moravia will be executed to the letter. And if the name of the journal whose reporter made an attempt to do this is made public, a general boycott would be likely to put a check to such objectionable advertising.

NOTE.—In the *Indian Medical Record* for August 1, 1892, Hehir records his later experience with salol in cholera, in which he has found the drug of no special value; the percentage of recoveries being the same as when general treatment was employed. Furthermore, he finds the comma bacillus thrives in salol solutions less than 10 per cent. in strength. He attributes a prophylactic virtue to quinine, as also does Lawrie; while in 7,000 cases in which sulphuric acid was given as a prophylactic not one case of cholera occurred.

GREAT excitement has been caused in London through a discovery made in examining a shipment of rags that was being landed. Many had come from cholera districts and were ordered to be burned at once. The vessel sailed from a German port, but the infected articles were the gathering of a wide territory. In several bundles the contents were so repulsive as to make only the most casual investigation possible or necessary.

—*Sanitarian.*

A POST-MORTEM PHENOMENON IN CHOLERA.—A Vienna physician, Dr. Frey, states that the supposed burial alive of patients apparently dead from cholera may be explained by the fact that the corpses of those who have died from the disease are for some time after death subject to convulsive movements of some muscles, or even of whole groups of muscles. Professor Eichorst also relates that on one occasion he had left a patient for dead, when, three hours later, he was told that the dead man had revived. He found that the muscles of the upper arm were giving short quick motions, following each other rapidly, which were interrupted by contractions of the whole group of muscles, whereby the forearm was visibly contracted. The fingers were also distinctly observed to be moving as though playing a piano. It was only after three hours that the movement of the muscles ceased.—*Hos. Gazette.*

HAHNEMANNIAN TREATMENT AND PREVENTION OF CHOLERA.—A dazzling Hahnemannian luminary states in one of our dailies that camphor is a specific for cholera, the mortality at Naples in 1884, under the camphor treatment, being only 0.15 of 1 per cent. (truly wonderful), whereas under "allopathic" treatment the mortality was over 50 per cent. No doubt the 998½ per mille recoveries were cases of homœopathic cholera. As a sure and safe—certainly safe—prophylactic measure against the Asiatic scourge it is recommended to either wear a copper plate next to the skin, it having been ascertained that copper miners and other workers in copper or brass are immune, or else to put half a teaspoonful of milk of sulphur into each stocking and go about one's business.

This is both easier and cheaper than to procure pure drinking water and enforce cleanliness in other respects, and as it is

said to never fail, there will be no need of further investigation of the nature of cholera, for the only practical object of such investigation is to find the means of prevention or cure!—*Pacific Med. Jour.*

A POOR TIME FOR CRITICISM.—A press dispatch from New Orleans credits a former President of the Louisiana State Board of Health with some very injudicious as well as, in part at least, unfounded utterances in disparagement of quarantine on the Atlantic coast. Among other things he is reported to have said:

"As for New York and other ports along the Atlantic seaboard, excepting Charleston, their methods and equipments are wholly inadequate to their necessities. They are, in fact, as revealed by this emergency, mere political-office-rewarding stations, whose methods are a perfunctory make-believe to hoodwink the public with a show of importance, while in fact they lack every essential of scientific requirement and trustworthiness."

This statement is so misleading, and so malicious as well, that we are inclined to believe the gentleman in New Orleans has been incorrectly reported. But whether he has or not, the present is not the time to excite distrust and suspicion of those charged with the defence of our country against this foreign invasion. A very grave danger threatens us, and it is the duty of every one to do what he can to aid those who are charged with the task of averting it. It is now too late to make any change in methods or men at our own or other quarantine stations, were it possible or desirable to do so. They are now undergoing a severe test, and if they succeed in keeping out cholera, let them receive the credit that will be their due, whatever sanitary system or whatever political party may derive advantage therefrom. We believe the system of maritime sanitation in use at the quarantine stations of the Mississippi river is a good one, but we cannot agree with the gentleman above quoted when he asserts that the only possible means of escape will be through "extraordinary efforts in the immediate enforcement of rational and scientific methods of defence, as embraced in our own (the Louisiana) quarantine system."

—*Med. Record.*

DRIVERS of English beer-wagons are said to receive a large part of their wages in beer.

IN THE TIMES AND REGISTER for August 13, the articles on "The Influence of Nasal Affections on the Respiratory Apparatus" and "Mercurial Sore Throat" should have been credited to the *Revue Internationale de Rhinologie, Otologie et de Laryngologie* instead of to the *Revue de Laryngologie*.

THE annual meeting of the Southern Surgical and Gynecological Association has been postponed from the 8th, 9th and 10th, until the 15th, 16th and 17th of November. It was thought wise to change the time of the meeting from the fact that the 8th of November is the date of the Presidential election. Everything points to a very successful session.

LORTET and Despeignes have shown that earthworms bring the bacilli of tuberculosis to the surface of the earth, in full possession of their virulence. Pasteur has already shown that the microbes of anthrax are resurrected by earthworms, and Freire claims the same to be true as regards the yellow fever germ.

This destroys the last remaining shred of pity we have hitherto felt for the worm when wriggling on a hook. The worm must go and cremation must come, at least for all infectious cases.

MEDICAL CORPS, U. S. NAVY.

Changes in the Medical Corps of the U. S. Navy for the week ending September 3, 1892.

RUSH, C. W., Passed Assistant-Surgeon. From special duty in connection with the Inter-Continental Railway Commission, and to the Navy Yard, New York.

MARSTELLER, E. H., Passed Assistant-Surgeon. Detached from practice ship Constellation, and to the Navy Academy.

STOUGHTON, JAMES, Assistant-Surgeon. Detached from practice ship Constellation, and to wait orders.

ARNOLD, W. F., Passed Assistant-Surgeon. Ordered to Naval Station, Port Royal, S. C.

GRIFFITH, S. H., Passed Assistant-Surgeon. Detached from the U. S. S. Jamestown, and to the U. S. S. Constellation.

STEARNS' CASCARA AROMATIC

Is a fluid extract (not a cordial, syrup or other dilute preparation) of prime and selected two year old bark. (Fresh bark contains a ferment which produces griping.)

Cascara Aromatic is sweet in taste (which children and women especially appreciate) instead of being bitter, as is the ordinary fluid extract, powerful (its dose is only $\frac{1}{4}$ to 1 fluidrachm) yet gentle in effect, and in addition does not gripe.

(This, next to its taste, is its most valuable property, as ordinary bitter fluid extracts do.)

SURELY AN IDEAL LAXATIVE.

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FREDERICK STEARNS & CO.,

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DR. BRUSH'S KUMYSS

"KUMYSS is, among the Nomads, the drink of all children, from the suckling upwards; the refreshment of the old and sick, the nourishment and greatest luxury of every one."—DR. N. F. DAHL's report to the Russian Government, 1840.

I WOULD also allude to cases of diarrhoea and vomiting, and of indigestion dependent on nervous disturbances during the later months of pregnancy. I had two cases during the past summer, both were rapidly declining in strength; they failed to be benefited by remedies suggested by other physicians, as well as myself, until they were placed on KUMYSS, when the improvement was rapid and permanent. Very truly yours,
ARCH M. CAMPBELL, M.D.

Farms and Laboratory,

MT. VERNON, N. Y.